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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/645,699

08/20/2003

Yutaka Enko

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EXAMINER

MYINT, DENNIS Y

ART UNIT

PAPER NUMBER

2162

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/645,699	ENKO ET AL.	
	Examiner	Art Unit	
	Dennis Myint	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>08/20/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-13 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Rabinovich (hereinafter "Rabinovich") (U.S. Patent Number 6256675).

As per claim 1, Rabinovich teaches the limitations:

"A computer system comprising a first network, a first computer connected to the first network, a second network connected to the first network, and a second and third computers connected to the second network"(Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49), the first computer comprising:

"a communication interface for connecting the first computer to the first network" (Figure 1: *PORT 110 AND PORT 114*, and Column 7 Lines 7-49);

"a disk storage device for storing data" (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49);

"a disk interface for communicating data with the disk storage device" (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49);

"a CPU for controlling the first computer" (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49) ; and

"a memory for storing data and a program for operating the CPU" (Column 7 Lines 7-49),

wherein the program includes:

"a module for recording situations of access to a file stored in the disk storage device from the third computer" (Column 14, Lines 7-24, i.e., *total access count*);

"a module for designating the file as a candidate for migration to the second computer depending on the access situations" (Column 14, Line 44 through Column 15 Line 34, i.e., *A host s periodically performs a method to decide on replica placement for its objects and Deletion threshold u and replication threshold m*);

"a module for transmitting a migrator acceptor search packet to the second computer for inquiring whether or not the second computer can accept the file" (Column 16 Lines 23 through Column 17 Line 22, i.e., *Host s sends a replication request to E's replicator r_E , which includes the ID of the object to be replicated and the load on host s generated due to x_3 . r_E forwards this request along the path with the lowest-loaded hosts.* and pseudo code from Line 28 to 54);

"a module for receiving a reply packet from the second computer as a response to the migrator acceptor search packet" (Column 16 Lines 56-65, i.e., *sends*

acknowledgement back up the tree to r_E and Column 16 Lines 30-35, i.e., Send Refuse to invoker); and

a module for transferring the file to the second computer (Column 16 Lines 55-60, i.e., *Host s*).

Claim 9 and 12 are rejected on the same basis as claim 1.

As per claim 2, Rabinovich is directed to the limitations:

"wherein: the memory stores a path of the file accessed by the third computer associating it with information on the access situations of the third computer" (Column 14, Lines 7-24, i.e., *total access count*) , and

"the program includes a module for designating the file corresponding to the access situation information as the candidate for migration when the information satisfies a predetermined condition" (Column 14, Lines 7-24, i.e., *So, an entity that frequently appears in preference paths may be a good candidate for placing an object replica*).

As per claim 3, Rabinovich teaches the limitation:

"wherein the program includes a module for transmitting an advertisement packet, indicating the file has been transferred to the second computer, to the second network" (Column 15 Line 17, i.e. *send OffLoadRequest(s) to the parent replicator of s;*

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and Column 13 Line 44 through Column 14 Line 7, i.e., *Replicators act as outside representatives of their regions to outside hosts and Decisions on replica placement are done in cooperation between hosts and the replication service*).

As per claim 4, Rabinovich teaches the limitation:

“wherein: the third computer comprises a memory for storing data and a program” (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49), and

“the program includes a module for receiving the advertisement packet and a module for making access to the second computer for the file according to the advertisement packet” (Column 6 Lines 7-29, i.e., *and distribute the request to a host (e.g. host 103) that stores a replica of the requested object*). Note that request distributor/replicators in an area are always in communication with other requestor distributors/replicators and advertisement packets are inherent in the method Rabinovich, which notifies placement of replicas in particular network areas (Column 13 Line 44 through Column 14 Line).

As per claim 5, Rabinovich teaches the limitation:

“wherein: the first network is further connected to a third network, and the program includes a module for transmitting the migrator acceptor search packet to the third network when no computer suitable for accepting the file is found in the second

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network" (Figure 1: *Host 103, Host 104, Host 105, Request Distributor 101, Network 102, and Requestor 109* and Column 16 Lines 23 through Column 17 Line 22). Note that the method of Rabinovich has replicators in a hierarchy (Column 13 Line 44 through Column 14 Line 25). If there is no computer suitable for accepting the file, acceptor search packets are inherently sent to other replicators in the higher levels of the hierarchy until a suitable one is found. Since the replicators are connected to Internet, there are more than one network, thus second, third, and more networks.

As per claim 6, Rabinovich is directed to the limitations:

"a second computer which is connected to a second network capable of communicating with a first network and which makes access to a file of a first computer connected to the first network" (Figure 1: *Host 103, Host 104, Host 105, Request Distributor 101, Network 102, and Requestor 109*), comprising:

"an interface for connecting the second computer to the second network" (Figure 1: *PORT 110 AND PORT 114*, and Column 7 Lines 7-49);

"a CPU for controlling the second computer" (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49); and

"a memory for storing data and a program for operating the CPU" (Column 7 Lines 7-49),

"wherein:

after reception, from the interface, of a path name to a third computer as a destination of the file transferred from the first computer, the CPU makes access to the file via the interface using the path name" (Column 6 Lines 7-29, i.e., *and distribute the request to a host (e.g. host 103) that stores a replica of the requested object*).

Note that request distributor/replicators in an area are always in communication with other requestor distributors/replicators and advertisement packets are inherent in the method Rabinovich, which notifies placement of replicas in particular network areas (Column 13 Line 44 through Column 14 Line). Therefore, requestors will know exactly where the transferred file is located via distributors/replicators.

Claim 11 is rejected on the same basis as claim 6.

Referring to claim 7, Rabinovich teaches the limitation:

"wherein the third computer is a computer connected to the second network"
(Figure 1: *Host 103, Host 104, Host 105, Request Distributor 101, Network 102, and Requestor 109*).

Referring to claim 8, Rabinovich is directed to the limitation:

"wherein: the memory stores a path name to the first computer and the path name to the third computer associating them with each other, and the CPU makes access to the file via the interface using the path name to the third computer by referring to the memory" (Column 14, Lines 7-24 and Column 6 Lines 7-29).

Note that request distributor/replicators in an area are always in communication with other requestor distributors/replicators and advertisement packets are inherent in the method Rabinovich, which notifies placement of replicas in particular network areas (Column 13 Line 44 through Column 14 Line). Therefore, requestors will know exactly where the transferred file is located via distributors/replicators.

Referring to claim 10, Rabinovich teaches the limitations:

“a second computer which is connected to a second network capable of communicating with a first network and which receives data from a first computer connected to the first network” (Figure 1: *Host 103, Host 104, Host 105, Request Distributor 101, Network 102, and Requestor 109*), comprising:

“a communication interface for connecting the second computer to the second network” (Figure 1: *PORT 110 AND PORT 114*, and Column 7 Lines 7-49);

“a CPU for controlling the second computer” (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49);

“a disk storage device for storing data” (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49);

“a disk interface for communicating data with the disk storage device” (Figure 1: *Host 103, Host 104, Host 105, and Request Distributor 101*, and Column 7 Lines 7-49);
and

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“a memory for storing data and a program for operating the CPU” (Column 7 Lines 7-49),

wherein the program includes:

“a module for receiving a migrator acceptor search packet inquiring acceptability of a file from the first computer” (Column 16 Lines 23 through Column 17 Line 22, i.e., *Host s sends a replication request to E's replicator r_E , which includes the ID of the object to be replicated and the load on host s generated due to x_3 . r_E forwards this request along the path with the lowest-loaded hosts.* and pseudo code from Line 28 to 54);

“a module for generating a migration admittance packet as a response to the migration admittance packet” (Column 16 Lines 23 through Column 17 Line 22); and

“a module for transmitting the reply packet to the first computer” (Column 16 Lines 23 through Column 17 Line 22).

Claim 13 is rejected on the same basis as claim 10.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- (1) U.S. Patent Number 6026414 (Anglin)
- (2) U.S. Patent Application Publication Number 2003/0039148 (Riedle)
- (3) U.S. Patent Application Publication Number 2004/0181605 (Nakatani et al.)
- (4) U.S. Patent Number 5544347 (Yanai et al.)
- (5) U.S. Patent Application Publication Number 2002/0091746 (Umberger et al.)
- (6) U.S. Patent Application Publication Number 2002/0004890 (Ofek et al.)
- (7) U.S. Patent Number 6484204 (Rabinovich)
- (8) U.S. Patent Number 6442601 (Gampper et al.)

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-5629.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint

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primary Examiner